

# Reporting GHG Emissions from Power Purchases

**CPUC/CEC Workshop on  
Load-Based Reporting**

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# Load-based Reporting Fundamentals



## Who

The load-serving entity (IOU, MUNI)  
Procurement + Schedulers  
Control Area Operators

## What

CO<sub>2</sub> associated with power delivery (end-users);  
Net-out wholesale sales

## When

After-the-fact; ex-post

## How

CO<sub>2</sub> from owned plants + purchases

# GHG Calculation



A Differentiated Emission Factor-based  
Approach: MWh x E.F. (CO<sub>2</sub>/MWh)

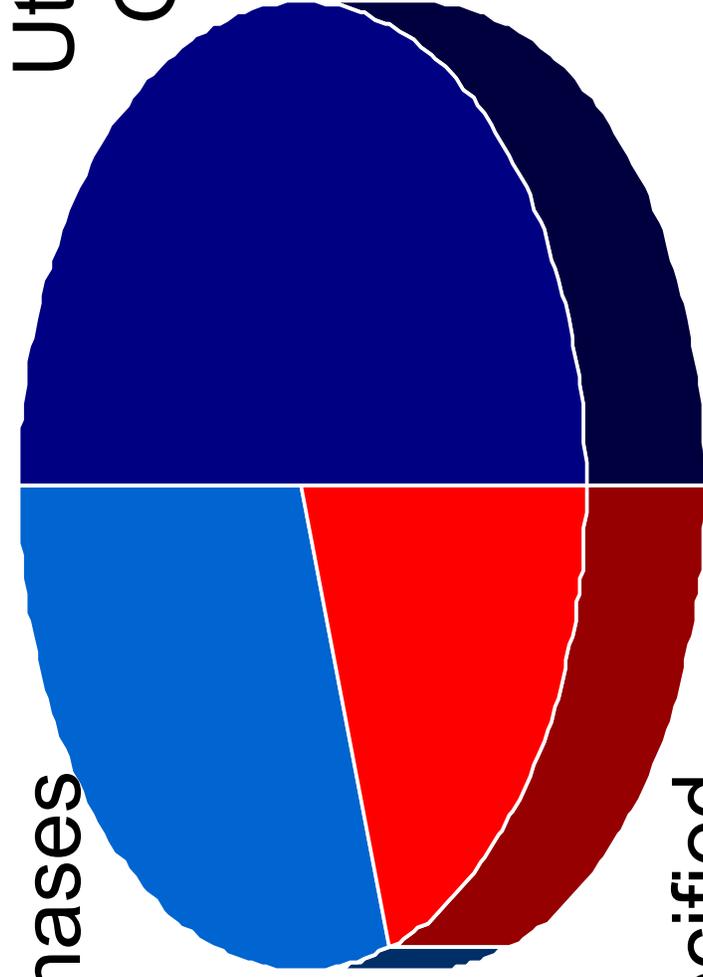
MWh from IOU/MUNI schedulers

E.F. tied to gen facility, if possible; if not possible then tied to either an LSE system or a Control Area system

# Universe of options to bring power to end users



Specified Purchases



Utility Owned Generation

Unspecified Purchases

# EF Information on UOG



Not Ambiguous

Actual hourly generation available from IOUs and MUNIs for their own generating facilities.

Actual hourly generation also available from CAISO for all generation.

# Types of Power Purchases

## Facility-specific

Qualifying Facility

IPP

## Unspecified

Asset owning entities

Utility

Merchant generator

Federal power agency

Non-asset owning entities

Power marketers

Balancing Authority

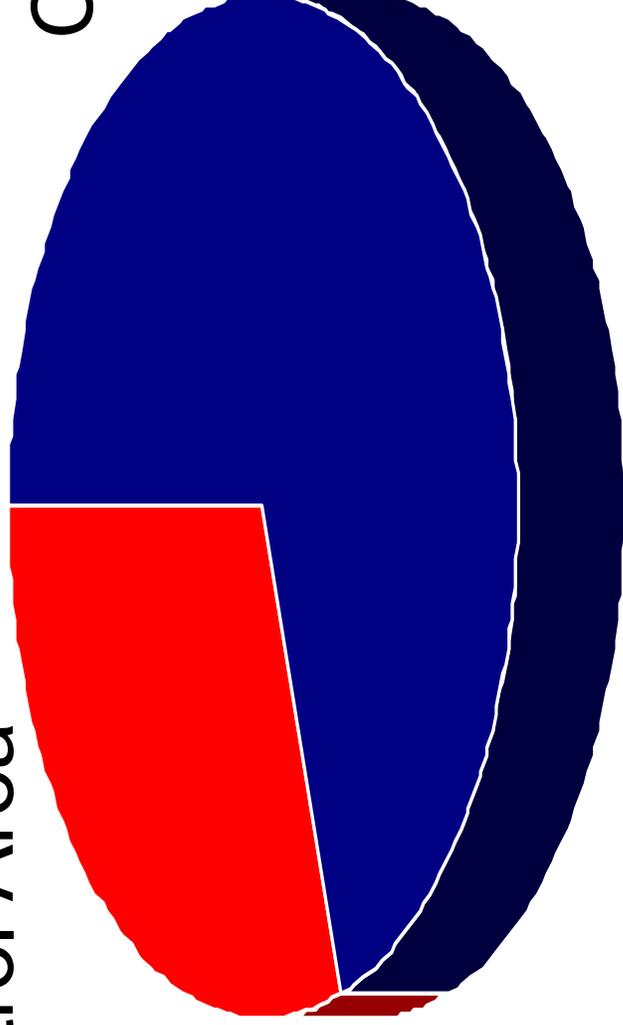


# Power can only come from one of two places



Inside  
Control Area

Outside  
Control Area



# EF Information on Intra-Control Area Purchases



QF + IPP + LSE-to-LSE

QF: PPAs. Data from IOU or MUNI

IPP: PPA and non-PPAs. Data from Control Area operator; coordinate with LSE contracts

LSE-to-LSE: Day-ahead? Data from Control Area operator; coordinate with LSE schedulers

# EF Information on inter-Control Area Purchases



Use NERC eTags

Required for all transactions that  
cross Control Areas

Shows Market Path

Shows “Physical” Path

# NERC eTags Definitions



- Source: “The Initial Point of Receipt for the transaction; the actual generation facility.”
- Source Control Area: “The control area in which the source (generation) is located for an interchange transaction. This is the geographic starting point of a tagged energy transaction.”
- Sink: “Final Point of Delivery for the transaction: the actual load.”
- Sink Control Area: “Control area in which the sink (load) is located. This is the geographic end of the tagged energy transaction.”

# NERC eTags Definitions



- Generation Providing Entity: “An entity that has rights to sell energy from a generation source. ...the first [entity] involved in a transaction.
- Load Selling Entity: “ An entity that sell energy to load. ...the last [entity] involved in a transaction.

# Conclusions

- Absent a WECC-wide power tracking system, we're left with only imperfect options to determine CO<sub>2</sub>/MWh delivered.
- Re purchases, differentiate the power scheduled to the fullest extent possible and apply an emission factor.



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